

SEQUENCE LISTING

<110> Jaworski, Jan G.
 Post-Beittenmiller, Martha A.
 Todd, James

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100 105 110
Pro Val Tyr Leu Val Asp Phe Ser Cys Tyr Lys Pro Glu Asp Glu Arg
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145 150 155 160
Gly Leu Gly Asp Glu Thr Tyr Leu Pro Arg Gly Ile Thr Ser Thr Pro
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225 230 235 240
Lys Ser Tyr Asn Leu Gly Gly Met Gly Cys Ser Ala Gly Leu Ile Ser
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Ile Asp Leu Ala Asn Asn Leu Leu Lys Ala Asn Pro Asn Ser Tyr Ala
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Tyr Leu Gln Asn Asn His Thr Ser Leu Thr Met Phe Phe Leu Tyr Leu
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Ala Leu Gly Ser Thr Leu Tyr Leu Met Thr Arg Pro Lys Pro Val Tyr
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Leu Val Asp Phe Ser Cys Tyr Leu Pro Pro Ser His Leu Lys Ala Ser
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Thr Gln Arg Ile Met Gln His Val Arg Leu Val Arg Glu Ala Gly Ala
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Trp Lys Gln Glu Ser Asp Tyr Leu Met Asp Phe Cys Glu Lys Ile Leu
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Glu Arg Ser Gly Leu Gly Gln Glu Thr Tyr Val Pro Glu Gly Leu Gln
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Asp Asn Ile Lys Ser Leu Asn Leu Gly Gly Met Gly Cys Ser Ala Gly
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Glu Lys Phe His Phe Phe Val Arg Phe Val Lys Lys Lys Phe Leu Asn
355 360 365
Pro Lys Leu Lys His Tyr Ile Pro Asp Phe Lys Leu Ala Phe Glu His

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Leu	Arg	Asn Val Lys Pro	Ser Thr Asn Asn Pro	Trp Glu Gln Cys Leu
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Lys Ile Asn Val Glu Asp Leu Gln Lys Phe Ser Leu His His Thr Gln
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Trp Ile Leu Tyr Met Leu Thr Arg Pro Lys Pro Val Tyr Leu Val Asp
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Phe Ser Cys Tyr Leu Pro Pro Ser His Leu Lys Val Ser Ile Gln Thr
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Leu Met Gly His Ala Arg Arg Ala Arg Glu Ala Gly Met Cys Trp Lys
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Pro Asp Asp Ile Gly Ile Leu Val Val Asn Ser Ser Thr Phe Asn Pro
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Arg Ser Phe Glu Cys Ala Thr Gln Glu Glu Asp Glu Asp Gly Ile Ile
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Cys Ile His Ala Gly Gly Arg Ala Leu Ile Asp Glu Leu Glu Lys Asn

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Thr Glu Ala Lys Gly Arg Met Lys Glu Gly Asp Arg Ile Trp Gln Ile		
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85 90 95
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245 250 255
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Glu Gln Gly Phe Lys Gly Leu Lys Ile Ser Arg Asp Leu Met Glu Val
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Gly Gly Glu Ala Leu Lys Thr Asn Ile Thr Thr Leu Gly Pro Leu Val
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35 40 45
Lys Leu Pro Asn Phe Leu Gln Ser Val Asn Met Lys Tyr Val Lys Leu
50 55 60
Gly Tyr His Tyr Leu Ile Thr His Leu Phe Lys Leu Cys Leu Val Pro
65 70 75 80
Leu Met Ala Val Leu Val Thr Glu Ile Ser Arg Leu Thr Thr Asp Asp
85 90 95
Leu Tyr Gln Ile Trp Leu His Leu Gln Tyr Asn Leu Val Ala Phe Ile
100 105 110
Phe Leu Ser Ala Leu Ala Ile Phe Gly Ser Thr Val Tyr Ile Met Ser
115 120 125
Arg Pro Arg Ser Val Tyr Leu Val Asp Tyr Ser Cys Tyr Leu Pro Pro
130 135 140
Glu Ser Leu Gln Val Lys Tyr Gln Lys Phe Met Asp His Ser Lys Leu
145 150 155 160
Ile Glu Asp Phe Asn Glu Ser Ser Leu Glu Phe Gln Arg Lys Ile Leu
165 170 175
Glu Arg Ser Gly Leu Gly Glu Thr Tyr Leu Pro Glu Ala Leu His
180 185 190
Cys Ile Pro Pro Arg Pro Thr Met Met Ala Ala Arg Glu Glu Ser Glu
195 200 205
Gln Val Met Phe Gly Ala Leu Asp Lys Leu Phe Glu Asn Thr Lys Ile
210 215 220
Asn Pro Arg Asp Ile Gly Val Leu Val Val Asn Cys Ser Leu Phe Asn
225 230 235 240
Pro Thr Pro Ser Leu Ser Ala Met Ile Val Asn Lys Tyr Lys Leu Arg
245 250 255
Gly Asn Val Lys Ser Phe Asn Leu Gly Gly Met Gly Cys Ser Ala Gly
260 265 270
Val Ile Ser Ile Asp Leu Ala Lys Asp Met Leu Gln Val His Arg Asn
275 280 285
Thr Tyr Ala Val Val Val Ser Thr Glu Asn Ile Thr Gln Asn Trp Tyr
290 295 300
Phe Gly Asn Lys Lys Ala Met Leu Ile Pro Asn Cys Leu Phe Arg Val
305 310 315 320
Gly Gly Ser Ala Ile Leu Leu Ser Asn Lys Gly Lys Asp Arg Arg Arg
325 330 335
Ser Lys Tyr Lys Leu Val His Thr Val Arg Thr His Lys Gly Ala Val
340 345 350
Glu Lys Ala Phe Asn Cys Val Tyr Gln Glu Gln Asp Asp Asn Gly Lys
355 360 365

Thr Gly Val Ser Leu Ser Lys Asp Leu Met Ala Ile Ala Gly Glu Ala
 370 375 380
 Leu Lys Ala Asn Ile Thr Thr Leu Gly Pro Leu Val Leu Pro Ile Ser
 385 390 395 400
 Glu Gln Ile Leu Phe Phe Met Thr Leu Val Thr Lys Lys Leu Phe Asn
 405 410 415
 Ser Lys Leu Lys Pro Tyr Ile Pro Asp Phe Lys Leu Ala Phe Asp His
 420 425 430
 Phe Cys Ile His Ala Gly Gly Arg Ala Val Ile Asp Glu Leu Glu Lys
 435 440 445
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 His Arg Phe Gly Asn Thr Ser Ser Ser Ile Trp Tyr Glu Leu Ala
 465 470 475 480
 Tyr Ile Glu Ala Lys Gly Arg Met Lys Lys Gly Asn Arg Val Trp Gln
 485 490 495
 Ile Ala Phe Gly Ser Gly Phe Lys Cys Asn Ser Ala Val Trp Val Ala
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gcggctagaa	gcgagggtca	gatggttatc	ttcgaggcca	tggacgatct	tttcaagaaa	540
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35 40 45
Leu Arg Met Gly Pro Glu Glu Ile Leu Asn Val Trp Asn Ser Leu Gln
50 55 60
Phe Asp Leu Val Gln Val Leu Cys Ser Ser Phe Phe Val Ile Phe Ile
65 70 75 80
Ser Thr Val Tyr Phe Met Ser Lys Pro Arg Thr Ile Tyr Leu Val Asp
85 90 95
Tyr Ser Cys Tyr Lys Pro Pro Val Thr Cys Arg Val Pro Phe Ala Thr
100 105 110
Phe Met Glu His Ser Arg Leu Ile Leu Lys Asp Lys Pro Lys Ser Val
115 120 125
Glu Phe Gln Met Arg Ile Leu Glu Arg Ser Gly Leu Gly Glu Glu Thr
130 135 140
Cys Leu Pro Pro Ala Ile His Tyr Ile Pro Pro Thr Pro Thr Met Asp
145 150 155 160
Ala Ala Arg Ser Glu Ala Gln Met Val Ile Phe Glu Ala Met Asp Asp
165 170 175
Leu Phe Lys Lys Thr Gly Leu Lys Pro Lys Asp Val Asp Ile Leu Ile
180 185 190
Val Asn Cys Ser Leu Phe Ser Pro Thr Pro Ser Leu Ser Ala Met Val
195 200 205
Ile Asn Lys Tyr Lys Leu Arg Ser Asn Ile Lys Ser Phe Asn Leu Ser
210 215 220
Gly Met Gly Cys Ser Ala Gly Leu Ile Ser Val Asp Leu Ala Arg Asp
225 230 235 240
Leu Leu Gln Val His Pro Asn Ser Asn Ala Ile Ile Val Ser Thr Glu
245 250 255
Ile Ile Thr Pro Asn Tyr Tyr Gln Gly Asn Glu Arg Ala Met Leu Leu
260 265 270
Pro Asn Cys Leu Phe Arg Met Gly Ala Ala Ala Ile His Met Ser Asn
275 280 285
Arg Arg Ser Asp Arg Trp Arg Ala Lys Tyr Lys Leu Ser His Leu Val
290 295 300
Arg Thr His Arg Gly Ala Asp Asp Lys Ser Phe Tyr Cys Val Tyr Glu
305 310 315 320
Gln Glu Asp Lys Glu Gly His Val Gly Ile Asn Leu Ser Lys Asp Leu
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Met Ala Ile Ala Gly Glu Ala Leu Lys Ala Asn Ile Thr Thr Ile Gly
340 345 350

Pro Leu Val Leu Pro Ala Ser Glu Gln Leu Leu Phe Leu Thr Ser Leu
 355 360 365
 Ile Gly Arg Lys Ile Phe Asn Pro Lys Trp Lys Pro Tyr Ile Pro Asp
 370 375 380
 Phe Lys Leu Ala Phe Glu His Phe Cys Ile His Ala Gly Gly Arg Ala
 385 390 395 400
 Val Ile Asp Glu Leu Gln Lys Asn Leu Gln Leu Ser Gly Glu His Val
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 Glu Ala Ser Arg Met Thr Leu His Arg Phe Gly Asn Thr Ser Ser Ser
 420 425 430
 Ser Leu Trp Tyr Glu Leu Ser Tyr Ile Glu Ser Lys Gly Arg Met Arg
 435 440 445
 Arg Gly Asp Arg Val Trp Gln Ile Ala Phe Gly Ser Gly Phe Lys Cys
 450 455 460
 Asn Ser Ala Val Trp Lys Cys Asn Arg Thr Ile Lys Thr Pro Lys Asp
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<211> 516

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<213> Arabidopsis thaliana

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35 40 45
Ile Ser Asn Leu Leu Thr Leu Cys Leu Phe Pro Leu Ala Val Val Ile
50 55 60
Ser Val Glu Ala Ser Gln Met Asn Pro Asp Asp Leu Lys Gln Leu Trp
65 70 75 80
Ile His Leu Gln Tyr Asn Leu Val Ser Ile Ile Ile Cys Ser Ala Ile
85 90 95
Leu Val Phe Gly Leu Thr Val Tyr Val Met Thr Arg Pro Arg Pro Val
100 105 110
Tyr Leu Val Asp Phe Ser Cys Tyr Leu Pro Pro Asp His Leu Lys Ala
115 120 125
Pro Tyr Ala Arg Phe Met Glu His Ser Arg Leu Thr Gly Asp Phe Asp
130 135 140
Asp Ser Ala Leu Glu Phe Gln Arg Lys Ile Leu Glu Arg Ser Gly Leu
145 150 155 160
Gly Glu Asp Thr Tyr Val Pro Glu Ala Met His Tyr Val Pro Pro Arg
165 170 175
Ile Ser Met Ala Ala Ala Arg Glu Glu Ala Glu Gln Val Met Phe Gly
180 185 190
Ala Leu Asp Asn Leu Phe Ala Asn Thr Asn Val Lys Pro Lys Asp Ile
195 200 205
Gly Ile Leu Val Val Asn Cys Ser Leu Phe Asn Pro Thr Pro Ser Leu
210 215 220
Ser Ala Met Ile Val Asn Lys Tyr Lys Leu Arg Gly Asn Ile Arg Ser
225 230 235 240
Tyr Asn Leu Gly Gly Met Gly Cys Ser Ala Gly Val Ile Ala Val Asp
245 250 255
Leu Ala Lys Asp Met Leu Leu Val His Arg Asn Thr Tyr Ala Val Val
260 265 270
Val Ser Thr Glu Asn Ile Thr Gln Asn Trp Tyr Phe Gly Asn Lys Lys
275 280 285
Ser Met Leu Ile Pro Asn Cys Leu Phe Arg Val Gly Gly Ser Ala Val
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Leu Leu Ser Asn Lys Ser Arg Asp Lys Arg Arg Ser Lys Tyr Arg Leu
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Val His Val Val Arg Thr His Arg Gly Ala Asp Asp Lys Ala Phe Arg
325 330 335
Cys Val Tyr Gln Glu Gln Asp Asp Thr Gly Arg Thr Gly Val Ser Leu
340 345 350
Ser Lys Asp Leu Met Ala Ile Ala Gly Glu Thr Leu Lys Thr Asn Ile
355 360 365

Thr Thr Leu Gly Pro Leu Val Leu Pro Ile Ser Glu Gln Ile Leu Phe
370 375 380
Phe Met Thr Leu Val Val Lys Lys Leu Phe Asn Gly Lys Val Lys Pro
385 390 395 400
Tyr Ile Pro Asp Phe Lys Leu Ala Phe Glu His Phe Cys Ile His Ala
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Gly Gly Arg Ala Val Ile Asp Glu Leu Glu Lys Asn Leu Gln Leu Ser
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Pro Val His Val Glu Ala Ser Arg Met Thr Leu His Arg Phe Gly Asn
435 440 445
Thr Ser Ser Ser Ile Trp Tyr Glu Leu Ala Tyr Ile Glu Ala Lys
450 455 460
Gly Arg Met Arg Arg Gly Asn Arg Val Trp Gln Ile Ala Phe Gly Ser
465 470 475 480
Gly Phe Lys Cys Asn Ser Ala Ile Trp Glu Ala Leu Arg His Val Lys
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Pro Ser Asn Asn Ser Pro Trp Glu Asp Cys Ile Asp Lys Tyr Pro Val
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